

U.S. Appl. No. 10/699,559
Response to Office Action dated April 7, 2005

REMARKS

Correction to the Drawing

Corrected drawing sheet 1 has been provided herewith. In the corrected drawing sheet, the stream leading from the Flue Gas Desulphurization Scrubber to the Steam Generator has been designated as "18c," in conformity with the specification on page 8, paragraph [0025].

Rejection of Claims 3 and 8 Under 35 U.S.C. 112.

Applicants believe that the amendment to claim 3 above overcomes the rejection under Section 112, since clear antecedent basis is present in amended claim 3. Claim 8 has been amended to depend from claim 3 so that clear antecedent basis is also present in amended claim 8. Support for the amendments is found in, for example, original claims 3 and 8 and paragraph [0027] of the specification.

Rejection of Claims Under 35 U.S.C. 103(a).

Claims 1 and 13 have been amended as indicated above, and new claims 17 – 22 have been added. Claim 8 has been cancelled. Support under Section 112 for the amendments to claims 1 and 13 and for new claims 17 – 22 can be found, for example, in paragraphs [0025] and [0026] of the specification and in original claim 8.

The Examiner rejected claims 1, 3-5, 7, 8, 12, 13, 14, and 16 under 35 U.S.C. 103(a) over Myers et al. 6,289,988 in view of Dahlstrom et al. 4,147,756 on the basis that "[i]t would have been obvious . . . to modify the process of Myers et al. . . . in view of the teachings of Dahlstrom et al., to aid in precluding scaling problems in the desulfurization process." Applicants respectfully submit that these rejections should be withdrawn for at least the following reasons.

Applicants' process relates to an integrated water treatment and flue gas desulfurization process in which a water stream containing hardness minerals may be subjected to a water treatment process using a precipitating alkali agent to precipitate the

U.S. Appl. No. 10/699,559
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hardness minerals and to produce a softened alkaline water stream having a pH of at least 8.5. Thereafter, the softened, alkaline water stream may be utilized in a scrubber to scrub a flue gas containing sulfur dioxide to produce a sulfur-lean flue gas. Applicants' process is particularly useful in a steam-based bitumen recovery operation where bitumen or other high sulfur fuels are burned to generate stream. In such operations, the available produced water may not have sufficient alkalinity to neutralize all of the sulfur dioxide generated by burning a high sulfur fuel such as bitumen. Applicants' process overcomes this problem by using an integrated softening and desulfurization process in which alkaline materials are added to increase the pH of the produced water to provide sufficient alkalinity for treating the high sulfur flue gas, and at the same time softening the produced water.

The Examiner states that "Dahlstrom et al. disclose . . . that it is known in the art to utilize a softened alkaline water stream as a scrubbing solution for flue gases to preclude scaling problems in the desulfurization process." Applicants disagree that Dahlstrom et al. teaches or suggests that a softened alkaline stream be used to scrub flue gas. First, Applicants note that the softened stream of Dahlstrom et al. is used in scrubbing device 11, which is a chloride scrubbing system. Applicants' reading of Dahlstrom et al. did not reveal any disclosure or suggestion that a softened stream should be used in Dahlstrom's sulfur dioxide scrubbing system. Second, Dahlstrom states that "In the softening device 97, calcium carbonate solids are formed and then are settled from solution. Normally, the amount of soda ash used at this stage is relatively minimal and sometimes none will be required." Thus, Applicants respectfully submit that Dahlstrom et al. does not teach that the pH of the softened stream entering the chloride scrubber 11 should be alkaline, let alone that it should have a pH of at least 8.5. Thus, the instant claims cannot be obvious in view of the cited art for at least the reason that such prior art references when combined do not teach or suggest all of the limitations of said claims. (See M.P.E.P § 2143.) The arguments above apply equally to all claims depending from claims 1 or 13 and thus overcome the Examiner's prior rejections of such claims.

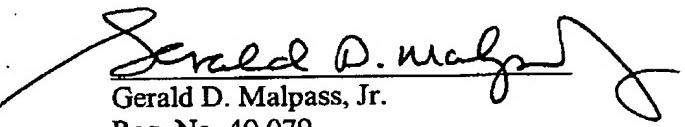
U.S. Appl. No. 10/699,559
Response to Office Action dated April 7, 2005

CONCLUSION

In view of the remarks and amendments set forth above, Applicants respectfully request withdrawal of the Examiner's rejections and allowance of all pending claims, claims 1-9 and 11-22. If the Examiner believes that a telephonic interview will help advance the application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

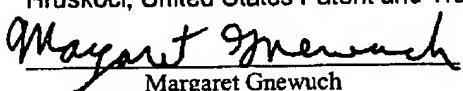
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Certificate of Facsimile Transmission

I hereby certify that this correspondence is being transmitted via facsimile to Examiner Peter A. Hruskoci, United States Patent and Trademark Office at (571) 273-8300 on August 8, 2005.


Margaret Gnewuch

U.S. Appl. No. 10/699,559
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DRAWINGS

A corrected drawing sheet for drawing sheet 1 (which contains Figure 1) is provided herewith. Please replace the current drawing sheet 1 with corrected drawing sheet 1.